NORTH PACIFIC OCEAN, NOVEMBER 1937

By WILLIS E. HURD

Atmospheric pressure.—Atmospheric pressure over the extreme northern part of the ocean for November 1937 was low, with average center of the LOWS, east of the Peninsula of Alaska (Kodiak 29.62 inches). Owing to several days with high barometer readings over the central Aleutians, the average pressures at Dutch Harbor and St. Paul were 0.13 and 0.15 inch above the normal. At the stations given in table 1, the pressure extremes in the Aleutian LOW region were 30.58 on the 16th and 28.76 on the 9th, both at St. Paul. At Kodiak and Juneau the lowest readings occurred on the 22d and 24th. The lowest reported barometer of the month in the North Pacific area was 28.68, at Queen Charlotte Island on the 24th.

Owing to the prevalence of LOWS in high latitude and their considerable southward extension, high pressure this month is shown as an anticyclonic band stretching from the California coast across the Hawaiian Islands and thence westward to the east China coast. Along this belt, Midway Island, with an average of 30.00, had a departure of −.08; while Naha, in the Nansei Islands, with an average of 30.02, had a departure of +.12, thus indicating the unusual strength of the Asiatic anticyclone in east China waters.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level, North Pacific Ocean, November 1937, at selected stations*

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Point Barrow	29.95	−0.05	30.66	20	29.24	10
Dutch Harbor	29.72	+.13	30.34	15, 16	29.06	9
St. Paul	29.74	+.15	30.58	16	28.76	9
Kokiak	29.62	+.06	30.12	13, 14	28.94	22
Juneau	29.78	+.02	30.20	9	28.90	24
Tatoosh Island	29.88	−.09	30.38	3	29.40	8
San Francisco	30.07	−.02	30.26	25	29.82	11
Mazatlan	29.91	+.02	29.96	{18, 19, 22}	29.82	16
Honolulu	30.04	+.02	30.14	7	29.87	16
Midway Island	30.00	−.08	30.18	25	29.66	17
Guam	29.85	−.01	29.89	2, 24	29.74	30
Manila	29.83	.00	29.93	29	29.56	17
Hong Kong	30.00	−.04	30.18	24, 25	29.76	18
Naha	30.02	+.12	30.18	24	29.80	18
Titijima	30.00	+.02	30.15	24, 26	29.62	18

NOTE.—Data based on 1 daily observation only, except those for Juneau, Tatoosh Island, San Francisco, and Honolulu, which are based on 2 observations. Departures are computed from best available normals related to time of observation.

Extratropical cyclones and gales.—Notwithstanding the advance in the season, the North Pacific cyclones of November were much shallower as a rule than those of the preceding month, and on only a few days did their central pressures fall below 29 inches. Except in middle latitudes of the ocean there was little or no increase in storminess over that of October. The weather was only moderately severe along the higher and middle steamship routes, and only 8 days were reported with gales of force as high as 10. The highest wind reported by a vessel was of force 12, encountered on the 7th by the British motorship *Tweedbank* a short distance southwest of Midway Island. The accompanying lowest pressure was 29.82.

November 1 and 2 were stormy days in both northwestern and northeastern waters. A cyclone east of northern Japan caused gales of force 8 to 10 over the northern route to the southeastward of the Kuril Islands on both dates, then moved northward over Kamchatka and thence eastward into the Bering Sea. In the northeastern sector storminess was equally heavy, but more widespread, with gales of force 8 to 10 reported from nearly all parts of the region within latitudes 40° and 50° N., longitudes 125° and 150° W. Lowest pressures there were about 29.20 inches.

During the period of the 5th to 12th stormy weather occurred north and northwest of Midway Island, between latitudes 30° and 40° N., in addition to the hurricane winds already mentioned as encountered southwest of Midway on the 7th. Most of the high winds were of force 8–9, but force 10 gales occurred on the 11–12th near 38° N., 166° E.

From the 8th to the 25th cyclonic weather overspread much of the northern part of the ocean, with scattered developments of LOW centers which were accompanied, along the western half of the northern routes, particularly on the 18th to 24th, by fresh to whole gales. Over the eastern half of the routes gales were fewer and less severe. However, the Weather Bureau station at North Head, Wash., had maximum wind velocities of 49 miles an hour from the south on the 13th, 22d, and 23d, and a 72-mile wind (force 11) on the 24th.

Typhoons.—Two disastrous typhoons crossed the Philippine Islands in November, one during the 11th, the other during the 17th. Both caused considerable loss to life and property. The history of these storms is given in the subjoined report prepared by the Rev. Bernard F. Doucette, S. J., of the Philippine Weather Bureau.

Tehuantepecers.—In the Mexican Gulf of Tehuantepec, norther-type gales of force 8 were reported on the 1st and 25th, and of force 9 on the 24th. During the Tehuantepecers of the 24th, the U. S. S. *Neches* reported a considerable drop in the air and water temperatures. The British motorship *Adellen*, in describing the weather features that day in the Gulf, spoke of a "slight haze and a hard bright glare on the horizon," with a cloudless sky except for a fan-shaped formation of cirrocumulus radiating from a northerly point at noon.

Fog.—Fog was observed on the 2d near 45° N., 160° E., and on the 5th to 8th and the 27th along the 40th parallel between 180° and 160° W. It occurred in California coastal waters on 7 days; west of Lower California on 2 days; and in the Gulf of Tehuantepec on 2 days.

TYPHOONS AND DEPRESSIONS OVER THE FAR EAST, OCTOBER 1937

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Typhoon, September 30–October 6, 1937.—Over the Pacific, about 350 miles east of Samar, a depression formed during the forenoon hours of September 30 and then moved northwest from this position. Two days later, it inclined to the west-northwest and crossed the Balintang Channel. On October 2 it intensified as it approached Calayan, passing close to and south of this station. The course of this storm hardly changed as it moved across the northern part of the China Sea up to the locality of Pratas Island, where it inclined to the north-northwest (October 4). The morning of October 5 the typhoon was entering the continent between Hong Kong and Swatow, disappearing the next day.

At Calayan, October 2, at 5 p. m., the minimum pressure was recorded, namely 737.95 mm (29.053 inches, corrected for gravity). North-northeast winds of force 7 were blowing at the time. The strongest wind experienced at that station during the course of the storm was force 10, from the east, at 9 p. m. of the same day.

On October 4, the two ships, *President Wilson* and *President Jefferson*, had severe typhoon weather as both